DAC3.1x

OWNER'S INFORMATION

! IMPORTANT SAFETY INFORMATION

⚠ **HEAT:** BY THE NATURE OF VACUUM TUBES, THIS PRODUCT GENERATES HIGH LEVELS OF HEAT. ADEQUATE VENTILATION MUST BE PROVIDED. DO NOT RESTRICT THE AIRFLOW THROUGH ANY OF THE VENTILATION SLOTS OR PLACE THE AMPLIFIER ON ANY SURFACE THAT MAY RESTRICT AIRFLOW.

CAUTION: THE VACUUM TUBES AND OTHER NEARBY PARTS OPERATE AT EXTREMELY HIGH TEMPERATURES - KEEP SUCH PARTS OUT OF THE REACH OF CHILDREN.

⚠ **HUMIDITY:** DO NOT STORE OR OPERATE THIS UNIT IN AREAS OF HIGH HUMIDITY, OR IN CLOSE PROXIMITY TO WATER/DAMPNESS. DO NOT EXPOSE THE UNIT TO LIQUID.

⚠ **EARTHING:** THE PRODUCT MUST BE EARTHED - ENSURE THAT THE MAINS SUPPLY CABLE IS EARTHED.

⚠ **SHOCK:** INTERNAL OPERATING VOLTAGES ARE LETHAL! DO NOT REMOVE THE TOP COVER. DO NOT ATTEMPT TO REPLACE THE FUSE WITHOUT DISCONNECTING THE UNIT FROM THE MAINS SUPPLY.

⚠ **SAFETY COMPONENTS:** INTERNAL FUSES AND OTHER SAFETY COMPONENTS ARE LOCATED INSIDE THIS UNIT IN ACCORDANCE WITH BS 60065 REQUIREMENTS.

IN THE EVENT OF SUCH COMPONENT FAILURE, THEY MUST BE REPLACED WITH THE SAME PART TYPES ONLY. SUCH REPLACEMENT MUST BE CARRIED OUT BY A QUALIFIED SERVICE TECHNICIAN.

CE DECLARATION OF CONFORMITY

We declare under our sole responsibility that this product is in conformity with the following standards or standardised documents:

BS EN 60065 in accordance with the regulations 73/23/EEC, 89/336/EEC (from 1st January 1997).

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Audio Note

Congratulations on your purchase of the Audio Note™ DAC3.1x.

The DAC3.1x was specifically designed and engineered for the best **sonic performance** rather than technical specifications. Although the DAC3.1x is a digital component (there is no avoiding this unfortunately!), it will bring a new level of musicality to your CD's and is fatigue free during extended listening periods. In order to obtain the best possible performance and longevity from your DAC, please read over this manual carefully.

Technology: The DAC3.1x uses the revolutionary and currently exclusive Audio Note™ digital technology dubbed the 1x oversampling™ direct from disc™ circuit topology. The ultimate version of this technology is found in the extremely expensive DAC5 Signature, and we have taken great to ensure that as much of the inherent advantages of the topology have been retained in the sound of the DAC3.1x. The technology dispenses with all the correction measures inherent in all other d-a converters and presents the digital signal directly to the converter after reformatting. This allow you to hear what is actually recorded on each disc, rather than, as has been the case up to now, some technically and cosmetically altered version. As a result the reproduction is more reminiscent of a master tape in quality.

Not surprisingly for an Audio Note™ product, the DAC uses vacuum tube technology implemented using traditional Audio Note™ techniques with simple signal paths incorporating no correction or feedback operating the valves at their most linear operating points for best sound and longevity.

Unlike its smaller brother the DAC1.1x, the DAC3.1x uses the patented analogue transformer coupled filter interface (US patent no. 5420585, UK patent no. 2270595, Australian patent no. 670611), which substantially improves the conversion from digital to analogue replay. Also Audio Note copper wired fully interleaved Supermumetal 250 cored interface transformer and Audio Note silver wiring.

UNPACKING & INSTALLATION.

Please take care when unpacking the DAC. We recommend that you store the packing materials in case the unit requires shipping at a later date.
Next, select a suitable location for the unit, ensuring that adequate ventilation is provided (the vacuum tubes do generate some amount of heat). In the interest of safe, reliable operation, situate the DAC away from dampness or direct sunshine.

Worthwhile sonic improvements may be obtained by locating the unit on a suitably designed audio component support system.

AFTER CARE

No special maintenance is required for the DAC3.1x. Cleaning is best made with a soft cloth or brush similar to those sold by photographic stores for lens cleaning applications.
Use a cloth dampened with mildly warm water and a weak soap solution for removing grease or oily substances. Strong or alcohol based solvents may cause damage to the DAC's finish.

Replacing the vacuum tubes. The valves used in the DAC3.1x is a common double triode type 6DJ8/ECC88, which should provide a useful life span of about 5 years if the DAC is operated 24 hours per day, which is the recommended operation and the one that sounds the best. There are many equivalents to the ECC88/6DJ8, (see my comments on this in a section later in this manual)
Although replacement tubes for the DAC3.1x are fairly widely available, better performance will be obtained with tubes selected and matched specifically for the DAC by Audio Note™. Should the vacuum tubes require replacement, please contact your Audio Note™ dealer for technical support.

CONNECTIONS - Digital

A coaxial connection enables connection of the DAC to a CD transport or other digital sources.

Before making a connection, ensure that the DAC and transport is turned off.

Select a suitable coaxial cable for digital use, we recommend Audio Note™ AN-C copper interconnects or AN-S, AN-V,AN-VX or AN-VZ silver interconnects, in a 75cm* run with Audio Note™ AN-SP or AN-P RCA plugs. Coaxial cables for digital use are most commonly terminated with RCA connectors and so the DAC uses RCA type input sockets.
Plug one end of the coaxial cable into the RCA socket on the DAC (marked Digital Input) and connect the other end of the coaxial cable to your CD transport (marked Digital Output).

Your dealer can advise on suitable type and quality of cable and give you a recommendation as to which Audio Note™ cable is the best choice. (Always recommended is Audio Note™ silver cable).

*Some special notes about digital cables - Try to use a digital cable of less than 1.5 metre in length. Ideal length is in our opinion 0.75metre.

CONNECTIONS - Analogue

Two sets of analogue outputs are provided for connection to your amplifier. Be sure to set the amplifier's volume to minimum before making the connection.

As the De-empasis process is now carried out automatically within the DAC itself we recommend that the right and left connections, to your amplifier, should only be made to the sockets on the rear panel marked DIRECT for BEST RESULTS.
The other pair of sockets markrd 'DE-EMP'. and the adjacent push-button switch need not be used.
De-emphasis means that the CD has been encoded with a treble increase which the De-emphasis circuit in the converter will correct.
The BEST connection for most CD`s should be done via the DIRECT OUTPUT.

CONNECTION MAINS : The DAC has an IEC mains inlet socket, use the supplied mains cable to connect the unit to the local mains supply, the fuse is situated in the inlet socket as well.

OPERATING THE DAC3.1x.

Once all the connections are complete, turn on the CD transport. Next turn on the DAC by using the rocker switch located on the back panel next to mains inlet socket. Now turn on the amplifier. Red led on front panel confirms unit is on.
If all is in order, the system is now ready to play music, and at last the sound of your compact discs will be tolerable!
The DAC3.1x will improve over time and start to sound really well balanced. This is because of the "bedding in" time taken by new electrical components inside the unit. Also, the DAC's sound quality improves as the unit reaches its normal, stable operating temperature.

Only a rear panel on/off switch is provided as the unit is designed for continuous operation. The DAC need not be switched off each time after use. It is interesting to note that continuous operation not only results in optimum sonic performance (since the unit is maintaining a constant operating temperature) but also causes less electrical stress and so extends component and valve life.

EXPERIMENTING WITH DIFFERENT VALVES.

As mentioned before the 6DJ8/ECC88 have a number of equivalents and were made by a large number of manufacturers, they are now only made in Russia and Yugoslavia.

Equivalents include,
7308, E88CC, 6922, E188CC, CV2493 (E88CC), CV5358 (ECC88), CV 4110 (very low noise E188CC version), CV4108, CV4109, CV4111 (all E188CC variants).
These were made by Sylvania, Amperex, PhilipsECG, Mullard, Philips (Holland), Siemens, Telefunken and many others.

The best I have found is the Telefunken E88CC 01 gold pin, expensive, but worth every penny.

WARRANTY AND SERVICING

Audio Note™ warrants this product free from defects in materials and workmanship for one year from original date of purchase from an appointed Audio Note™ dealer. The vacuum tubes are warranted for three months.

Any modification not authorised by Audio Note will invalidate this warrenty.

In the event that your Audio Note™ product requires servicing, please contact your Audio Note™ dealer. If the component needs to be shipped, please use the original packaging materials and include a copy of the sales purchase with a note, explaining, in as much detail as possible, the problems that you are experiencing with the unit.

If you require technical support, new vacuum tubes or have any questions, please direct them to your local Audio Note™ dealer or alternatively to :-

Customer Support
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SPECIFICATIONS

Weight	8 kilograms
Dimensions	145(h) x 300 (w) x 415 (d) (mm)
Fuse ratings	800mA anti-surge (110/120v supply) 500mA anti-surge (220/240V supply)
Output impedance	Less than 2K ohm
Reference output	3.0V RMS (approx.)
Channel balance	Less than 0.25db
Tube compliment	2 x 6DJ8 Philips ECG Output Stage
Digital system	18 Bit 44.1/48/96KHz compatible multi Bit

converter chip, the 1xoversampling system will truncate the information at 20, 22 and 24Bits, which is very much milder form of information loss than that introduced by traditional over sampling and digital filtering etc.

Power consumption	20 Watts

Note: Due to Audio Note's ongoing research and development programme, specifications are subject to change without notice. July `01.

THIS PRODUCT COMPLIES WITH CE STANDARDS.